ENERGY EFFICIENT EVAPORATION SYSTEM

Abstract

An evaporation system that uses the weight of condensed liquid as an energy source. An inlet feed is introduced into an enclosure through an inlet. The inlet feed is vaporized in an evaporation region of an enclosure, and condensed to a liquid in a condensation region of the enclosure. The condensed liquid collects in a liquid region of the enclosure. The liquid region has an outlet. A blower between the evaporation region and the condensation region maintains the condensation region at a higher pressure than the evaporation region. The level of the liquid in the liquid region defines the volume and pressure of the evaporation and condensation regions, such that as the liquid is drained from the outlet, at least in part by the weight of the liquid, the pressure in the evaporation region decreases. The flow through the inlet and the outlet is regulated to maintain the pressure in the evaporation region at a pressure that tends to vaporize the inlet feed.